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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,253	02/06/2006	Hideyuki Takai	3273-0218PUS1	3053
2292 7590 03/18/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
ARNBERG, MEGAN C				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
03/18/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/567,253

Applicant(s)

TAKAI ET AL.

Examiner

MEGAN ARNBERG

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/DE)
Paper No(s)/Mail Date 11/27/2006; 02/06/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Takai (US 2003/0059618).

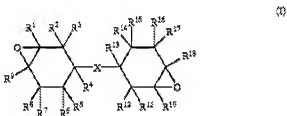
Regarding claim 1: Takai teaches a composition comprising an epoxy resin composition and a cationic polymerization initiator (paras. 35-36). The composition comprises 10-100 parts by weight of an alicyclic epoxy compound which has no ester groups (formula (I)), and 0 to 90 parts by weight of another epoxy compound. This overlaps the claimed percentages of the ester-free alicyclic epoxy compound and the another epoxy compound. Also disclosed is the cationic polymerization initiator in an amount of 0.05-5 parts by weight to 100 parts by weight of the epoxy resin (para. 86), which overlaps the claimed range (paras. 35-36).

Regarding claim 2: Takai further teaches a compound of a copolymer having at least one glycidyl group and/or alicyclic epoxy group in the molecule in an amount of 1-50 parts by weight to 100 parts by weight of the sum of the two epoxy compounds (para. 36). The copolymer contains glycidyl acrylate monomers, which makes it an acrylic resin (para. 135).

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Regarding claim 3: Takai further teaches the copolymer containing glycidyl acrylate monomers also contains hydroxyethyl acrylate, which would give the copolymer hydroxyl groups (para. 137).

Regarding claim 4: Takai teaches the compound:



[0036] (wherein X represents a divalent group selected from oxygen atom, sulfur atom, $-\text{SO}-$, $-\text{SO}_2-$, $-\text{CH}_2-$, $-\text{C}(\text{CH}_3)_2-$, $-\text{CBr}_2-$, $-\text{C}(\text{CBr}_3)_2-$, $-\text{C}(\text{CF}_3)_2-$, $-\text{C}(\text{CCl}_3)_2-$ and $-\text{CH}(\text{C}_6\text{H}_5)-$, or a single bond linking two alicyclic rings; and R^1 to R^{18} are the same or different and each represents hydrogen atom, halogen atom, a hydrocarbon group which may contain oxygen atom or halogen atom, and an alkoxy group which may have substituent groups); 0 to 90 parts by weight of a

X can be a single bond (paras. 35-36).

Regarding claim 7: Takai teaches a cured product having excellent transparency (abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

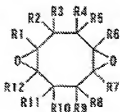
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takai (US 2003/0059618) as applied to claims 1-3 above and in view of Crivello (U.S. Pat. 6,210,790).

Regarding claim 5: Takai teaches the basic composition as set forth above. Not disclosed is the compound of structural formula:



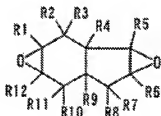
. However, Crivello teaches a transparent polymer (abstract) comprising cationic photoinitiators (col. 1 lines 48-55) and a 1,2,5,6-cyclooctadiene dioxide (col. 6 line 4-30). Takai and Crivello are combinable because they are both concerned with the same field of endeavor, namely composition comprising alicyclic epoxy resins for transparent materials. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the 1,2,5,6-cyclooctadiene dioxide of Crivello with the composition of Takai and would have been motivated to do so for such desirable properties as formability, flexibility, lower

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processing temperatures, resistance to breakage and lighter weight of the transparent plastics as substitutes for glass, as stated by Crivello (col. 1 lines 10-20).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takai (US 2003/0059618) as applied to claims 1-3 above and in view of Starcher et al. (U.S. Pat. 3,278,456).

Regarding claim 6: Takai teaches the basic composition as set forth above. Not disclosed is the compound of structural formula:



. However, Starcher et al. teaches

(1)



wherein R represents hydrogen or an alkyl radical and wherein R₁ represents (a) hydrogen, (b) an alkyl radical, (c) a halogen radical, (d) an alkoxy radical, (e) an alkanoyloxy radical, (f) an alkoxy carbonyl radical, or (g) a cyano radical.

in a polymerizable composition. Takai and

Starcher et al. are combinable because they both concerned with the same field of endeavor, namely cured products comprising ester-free alicyclic epoxy compounds. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the ester-free alicyclic epoxy compound of Starcher et al. with the composition of Takai and would have been motivated to do so for such desirable

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properties as ability to be intricately molded, sustain high pressure and heat and easy handling, as stated by Starcher et al. (col. 1 lines 10-38).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEGAN ARNBERG whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796
1-Mar-08

/M. A./
Examiner, Art Unit 1796
February 28, 2008